AMENDMENTS TO THE CLAIMS

1. (Currently amended) A transmission comprising a plurality of gear ratios, a selector ~~means~~ assembly for selectively engaging the gear ratios, a clutch ~~means~~ device for selectively transmitting drive from a drive source to the transmission, and a control system for controlling a clutch torque limit, said control system being constructed and arranged to automatically adjust ~~the~~ a clutch torque limit value before the selector ~~means~~ assembly selects an unengaged gear ratio when shifting between gear ratios, to allow relative rotational movement between input and output sides of the clutch device if the torque exceeds ~~the~~ a predetermined value when the unengaged gear ratio is engaged by the selector ~~means~~ assembly, wherein the transmission is arranged such that selection of a new gear ratio takes place almost instantaneously without substantial power interruption.

2. (Currently amended) A transmission according to claim 1, further comprising a sensor system arranged to detect the operational status of the clutch ~~means~~ device and an actuator for controlling the clutch torque limit, wherein the actuator is adapted to reduce the clutch torque limit until the sensor system detects a predetermined operational status before selecting an unengaged gear ratio.

3. (Currently amended) A transmission according to claim 1, wherein the clutch ~~means~~ device is arranged to increase the clutch torque limit when ~~the~~ a new gear ratio has been selected.

4. (Currently amended) A transmission according to claim 1, wherein the clutch device includes an input side and an output side and the control system is arranged to reduce the clutch torque limit until the input and output sides of the clutch device slip before the selector ~~means~~ assembly selects an unengaged gear ratio.

5. (Currently amended) A transmission according to claim 4, further comprising a sensor ~~means~~ system arranged to detect slip between the input and output sides of the clutch device, and wherein the actuator for controlling the clutch torque limit reduces the clutch torque limit until the sensor ~~means~~ system detects slip between the input and output sides of the clutch device before selecting an unengaged gear ratio.

6. (Currently amended) A transmission according to claim 4, wherein the clutch ~~means~~ device is arranged to increase the clutch torque limit when ~~the~~ a new gear ratio has been selected.

7. (Currently amended) A transmission according to claim 1, ~~further comprising means for controlling~~ wherein the control system is arranged to control the speed and torque of the drive source.

8. (Currently amended) A transmission according to claim 7, wherein the ~~means for controlling the speed and torque of the drive source is~~ control system includes an engine control unit arranged to adjust an engine output when the selector assembly engages ~~the~~ a new gear ratio.

9. (Currently amended) A transmission according to claim 7, wherein the ~~means for controlling the speed and torque of the drive source~~ control system is arranged to increase or decrease the speed and torque of the drive source to control output torque of the transmission when a new gear ratio is selected.

10. (Currently amended) A transmission according to claim 1, further ~~comprising means~~ including a sensor device for sensing the position of the selector ~~means~~ assembly within the transmission.

11. (Currently amended) A transmission according to claim 1, further ~~comprising means~~ including a sensor device for sensing the relative rotational positions of a gear wheel and the selector ~~means~~ assembly and means for controlling engagement of the gear wheel by the selector ~~means~~ assembly according to the sensed rotational positions.

12. (Currently amended) A transmission according to ~~any~~ claim 1, wherein the clutch ~~means~~ device is a clutch, a torque converter, or a torque converter in combination with a clutch.

13. (Currently amended) A transmission according to claim 1, ~~further comprising means for measuring~~ wherein the control system is arranged to measure or ~~estimating~~ estimate and ~~recording~~ record the torque in the transmission before an unengaged gear ratio is selected and ~~means for estimating~~ to estimate the torque in the transmission after ~~the~~ a new gear ratio has been selected.

14. (Currently amended) A transmission according to claim 1, ~~further comprising means~~ wherein the control system is arranged to predict a target torque at the completion of a shift control sequence and approach the target torque at a predetermined gradient until the target torque is met.

15. (Currently amended) A transmission according to claim 14, wherein the clutch device is restored to ~~the~~ a condition prior to instigation of the shift before the target torque is met.

16. (Previously presented) A transmission according to claim 1, wherein the control system further comprises means for measuring deformation caused by torque in the transmission in at least one static component or assembly that is deformed due to torque in the transmission, and means for controlling the torque in the transmission, wherein the control system is arranged to measure deformation and to adjust the torque in the transmission according to the measured deformation and a known relationship between the gear ratios.

17. (Original) A transmission according to claim 16, wherein the known relationship is substantially linear and values corresponding to the measured deformation are adjusted by a scaling factor.

18. (Currently amended) A transmission according to claim 16, wherein the control system is arranged to control ~~the~~ a rate of change of torque in the transmission in accordance with the deformation measured.

19. (Currently amended) A transmission according to claim 16, wherein the means for controlling torque in the transmission includes ~~clutch means~~ the clutch device.

20. (Currently amended) A transmission according to claim 16, wherein the means for controlling torque in the transmission includes means for controlling the speed of ~~a~~ the drive source.

21. (Previously presented) A transmission according claim 16, wherein the control system further comprises means for calculating the magnitude of torque in the transmission system.

22. (Previously presented) A transmission according to claim 16, wherein the means for measuring deformation includes at least one load cell.

23. (Previously presented) A transmission according to claim 16, wherein the means for measuring deformation includes at least one strain gauge.

24. (Currently amended) A transmission according to claim 1, further comprising means for measuring or estimating and recording the torque in the transmission before an unengaged gear ratio is selected and ~~means~~ for estimating the torque in the transmission after the new gear ratio has been selected.

25. (Canceled)

26. (Currently amended) A transmission according to claim 14, wherein the clutch device is restored to ~~the~~ a condition prior to instigation of the shift before the target torque is met.

27. (Currently amended) A method for changing gear ratios for transmitting drive from a drive source to a transmission comprising a clutch and a plurality of gear ratios, said method comprising

selectively engaging a first gear ratio of the transmission;

selectively transmitting drive from ~~a~~ the drive source to the transmission at the first gear ratio,

automatically adjusting a torque limit value of the clutch before selecting a second gear ratio;

engaging ~~a~~ the second gear ratio while allowing relative rotational movement between input and output sides of the clutch if the torque exceeds the torque limit value; and

transmitting drive from the drive source to the transmission at the second gear ratio,

wherein the transmission is arranged such that selection of a new gear ratio takes place almost instantaneously without substantial power interruption.

28. (Previously presented) A method according to claim 27, further comprising detecting the operational status of the clutch, wherein the adjusting step comprises reducing the clutch torque limit to a predetermined operational status.

29. (Previously presented) A method according to claim 27, further comprising increasing the clutch torque limit when the second gear ratio has been selected.

30. (Previously presented) A method according to claim 27, wherein the adjusting step comprises reducing the clutch torque limit until the input and output sides of the clutch slip.

31. (Previously presented) A method according to claim 30, further comprising detecting slip between the input and output sides of the clutch, wherein the adjusting step comprises reducing the clutch torque limit until the slip between the input and output sides of the clutch is detected.

32. (Previously presented) A method according to claim 30, wherein the clutch torque limit is increased when the second gear ratio has been selected.

33. (Previously presented) A method according to claim 27, further comprising controlling the speed and torque of the drive source.

34. (New) A transmission system as according to claim 1, including first and second rotatable shafts, wherein the plurality of gear ratios is arranged to transfer drive between the first and second shafts and includes first and second gear wheels each rotatably mounted on the first shaft and having drive formations formed thereon, the selector assembly is arranged to selectively transmit torque between the first shaft and the first gear wheel and between the first shaft and the second gear wheel, wherein the selector assembly includes an actuator assembly and first and second sets of engagement members that are moveable into and out of engagement with the first and second gear wheels independently of each other, said selector assembly being arranged such that when a driving force is transmitted, one of the first and second sets of engagement members drivingly engages an engaged gear wheel, and the other set of engagement members is then in an unloaded condition, wherein the actuator assembly is arranged to move the unloaded set of engagement members to effect a gear change.

35. (New) The transmission system as claimed in claim 34, wherein the selector assembly is arranged such that when a braking force is transmitted the first set of engagement members drivingly engages the engaged gear wheel, and the second set of engagement members is in an unloaded condition, and when a driving force is transmitted the second set of engagement members drivingly engages the engaged gear wheel, and the first set of engagement members is then in an unloaded condition.

36. (New) The transmission system as claimed in claim 34, wherein the actuator assembly is arranged to bias the loaded set of engagement members towards an unengaged gear wheel without disengaging the loaded set of engagement members from the engaged gear wheel.

37. (New) A transmission system having including first and second rotatable shafts, first and second gear ratios for transferring drive between the first and second shafts, a selector assembly for selecting between the first and second gear ratios, a clutch device for selectively transmitting drive from a drive source to the transmission, a control system for controlling a clutch torque limit, and wherein the first gear ratio includes a first gear wheel rotatably mounted on the first shaft, the second gear ratio includes a second gear wheel rotatably mounted on the first shaft and the first and second gear wheels each have drive formations formed thereon, the selector assembly is arranged to selectively transmit torque between the first shaft and the first gear wheel and between the first shaft and the second gear wheel, and includes an actuator assembly and first and second sets of engagement members that are moveable into and out of engagement with the first and second gear wheels independently of each other, said selector assembly being arranged such that when a driving force is transmitted, one of the first and second sets of engagement members drivingly engages an engaged gear wheel, and the other set of engagement members is then in an unloaded condition, wherein the actuator assembly is arranged to move the unloaded set of engagement members to effect a gear change and the control system is constructed and arranged to automatically reduce the clutch torque limit until the input and output sides of the clutch slip before the selector assembly selects an unengaged gear ratio, the arrangement being such that further slipping occurs if the torque exceeds the clutch torque limit value when the unengaged gear ratio is engaged by the selector assembly, and further arranged to increase the clutch torque limit when the unengaged gear ratio has been selected by the selector assembly to restore the clutch torque limit to its condition prior to instigating the shift.